the survival of a custom which was once practised throughout the Valley of the Mississippi —that of utilizing the ancient mounds as places of burial.

In many mounds which have been examined in the central and southern section of the valley, interments have been discovered only two or three feet below the present surface of the mounds. A notable instance of this sort occurred at the time of the destruction of the large mound which formerly stood in the city of St. Louis. In 1869 when the mound was removed, human remains were found about three feet below the surface near the north end.* Stone graves were also found upon the summit of the same mound, a group of five having been examined by members of the Long Expedition as early as 1819.†

According to a statement made by Conant, the large mound must have been used by the Indians as a place of burial, as late as 1819 or the same year it was seen and described by the Long party.

"This mound, as is well known, was used by the Indians as a burial place, and only about sixty years since, it was visited by a small band, who disinterred and carried away the bones of their chief, who had been buried there."‡

At a meeting of the Ethnological Society in January, 1861, E. G. Squier described a burial which had recently been discoverd near the summit of a small mound near Cahokia, opposite St. Louis, and stated "that the position of the skeleton in the mound would lead him to infer that it was of comparatively recent deposit. His experience was that the true remains of the mound builders were generally to be found at the bottom of the mound, immediately under its apex."

Such a conclusion would apply to the mounds at Mille Lac; the 'true remains of the mound builders' are found at the bottom of the mound on the original surface, while the secondary or intrusive burials are made by the Ojibways.

D. I. BUSHNELL, JR.

CAMBRIDGE, MASS.,
July 22, 1904.

* Conant, 'Footprints of Vanished Races,' 1879, p. 41.

† 'Expedition from Pittsburg to the Rocky Mountains,' Phila., 1823, Vol. I., p. 64.

‡ Conant, p. 41.

§ *Bulletin of the Ethnological Society*, Vol. I., p. 25, January, 1861.

CURRENT NOTES ON METEOROLOGY.

A WORLD-WIDE BAROMETRIC SEE-SAW.

To *Nature* for June 23, Dr. W. J. S. Lockyer contributes an article under the above title, in which the results of recent studies by Sir Norman Lockyer and himself are embodied. Two pressure variation types were selected, that over India and that at Cordoba, and the pressure curves of other places were compared with these two type curves. When any pressure curve extending over several years showed an excess pressure at those epochs when the Indian pressure curve was in excess, it was classified as similar to the Indian type, and represented by a +. If more like the Indian curve than the Cordoba curve, but not quite the exact counterpart of India, it was marked + ?. Similarly, pressure curves like Cordoba were classified as —, and those more like Cordoba than India, as —?. Other cases, difficult to classify satisfactorily, were marked ± ? or ?. The signs of the different types of pressure variation were then entered on a map of the world, and the two main regions were separated by neutral lines. It is interesting to note that the two neutral lines are fairly symmetrical to one another. Both lines apparently cross the equator at antipodal points, and both appear to have a similar trend in north and south latitudes. The indication is that a general law exists with regard to pressure changes which occur simultaneously in these two extensive regions of the globe, the neutral lines forming a fulcrum about which see-saws of pressure from one region to another take place. Professor Bigelow, of the U. S. Weather Bureau, has reached conclusions along the same line of investigation which are in the main similar to those here discussed. The importance of these studies is in connection with the possible long-range forecasting of the future, for it is probable that regions which are the reverse of one another as regards secular pressure variations should have opposite kinds of abnormal weath-

er, while those over which the same type of pressure variation exists should have weather of an abnormal but similar nature.

VERTICAL TEMPERATURE DECREASE UP TO 10 KILOMETERS.

A PAPER on the vertical decrease of temperature up to altitudes of 10 kilometers, as determined by balloon observations, was read by Hann before the Vienna Academy of Sciences on April 21, 1904. The object of the investigation, the results of which were presented in this report, was to ascertain whether the annual march of the temperature at great altitudes in the free air can at present be determined with fair accuracy on the basis of the observations already made during balloon ascents. The data employed were obtained on 150 ascents up to seven kilometers, and on 125 up to heights between seven and ten kilometers. Among the most interesting of Hann's results are those which concern the rate of decrease of temperature vertically in cyclones and anticyclones in winter and summer. These agree with Hann's conclusions based on the Sonnblick observations up to three kilometers, and with the results obtained by de Bort for greater altitudes. The vertical decrease of temperature in the lower air is slower in anticyclones than in cyclones, but at greater altitudes the relations change. The lowest temperatures at great heights are found in anticyclones. In the lower air, and above eight kilometers, the minima are warmer, and in the intermediate strata the maxima are warmer. The excess of temperature in the anticyclones reaches at its maximum about 9° in the stratum between two and three kilometers. Similar differences were previously found from the Sonnblick observations. The general mean between one kilometer and ten kilometers gives an excess of temperature for the anticyclonic air, but definite conclusions must be postponed until the publication of de Bort's results.

WEST INDIAN HURRICANES.

As usual during the tropical cyclone season, the 'Pilot Chart of the North Atlantic' for July contains an account of West Indian Hurricanes, by James Page (reprinted from Hydrographic Office Publication No. 86, Gulf of Mexico and Caribbean Sea, Vol. I., 5th edition, 1901). This is an excellent brief account of the most important facts regarding season and frequency; origin and development; area and depth; direction of the wind and bearing of the storm center; distance of the center; weather changes during the approach of a tropical cyclone; the motion of the storm center and the shifts of the wind; and maneuvering. Four figures show: (I.) the generalized track and the direction of the inflowing winds; (II.) tracks of the more important hurricanes during the ten-year period 1890–1899; (III.) barometric pressure and wind at Havana during the hurricane of October 19, 1876; and (IV.) positions in which vessels caught in a hurricane should 'lie to.' Extra copies of this discussion on West Indian hurricanes may be obtained on application to the hydrographer, Navy Department, Washington. The August 'North Pacific Ocean Pilot Chart' has a similar discussion of typhoons.

CLIMATE OF EGYPT.

THE 'Meteorological Report for the Year 1901,' published by the Survey Department, Public Works Ministry, Cairo, has recently been received (Cairo, 1903). The usual international tables are given for seven stations in Egypt and six in the Sudan, including Omdurman, Wadi Halfa and Suakin. In a personal letter to the compiler of these notes, Captain H. G. Lyons, director-general of the Survey Department of Egypt, writes as follows: "I have this time published large diagrams of the daily observations, and it is interesting to see the prompt effect of a Mediterranean depression passing near our African coasts. I hope that a note on the Khamsin winds will be published this year. These are not a special spring effect, as has frequently been said, but are our southerly winds which we may have at any time, though their intensity and sand-carrying power is greatest in May."

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